Climate Review for PR and USVI – January 2022

Synopsis: *Generally dry conditions persisted for the first month of 2022. Most of the area experienced below normal rainfall, except for a few sections of western Puerto Rico, around San Juan, Culebra and St. Croix. The most significant rainfall event occurred on the 31st ,which resulted in flash flooding for the San Juan metro area. Drought conditions worsened for all of the islands, with 86% of Puerto Rico and all the U.S. Virgin Islands now under any drought classification.*

Observed Conditions:

Temperatures during January normally are on the mild side for Puerto Rico and the U.S. Virgin Islands. Maximum temperatures typically reach the mid-60s and low 70s at the higher mountains in Puerto Rico, while they remain in the upper 70s to mid-80s for most of the coastal areas. During the overnight hours, the thermometer readings tend to go down to the mid 50s to mid-60s over the mountains, and the mid-60s to low 70s for the coastal areas of Puerto Rico. Across the U.S. Virgin Islands, expected lows are in the low to mid-70s. January is the third driest month on average for the local islands. The U.S. Virgin Islands, Vieques and Culebra receive 2 to 3 inches; the northern half of Puerto Rico, 3 to 6 inches, while the southern portions collect 1 to 2 inches.

Just as what happened during most of 2021, the first month of 2022 ended drier than normal. Rainfall deficits were as high as 5 to 8 inches for the Luquillo Mountain Range, and 1 to 3 inches elsewhere. A few sections did receive above normal rainfall, including portions of the San Juan metro area, western Puerto Rico, and also St. Croix of the U.S. Virgin islands (Figure 1). At the Luis Muñoz Marín International Airport (JSJ), rainfall was over an inch below normal, although most of San Juan observed amounts near one inch above average. Across the U.S. Virgin Islands, St. Thomas (IST) was below normal and St. Croix (ISX) ended a little wetter than normal, with a surplus of 0.28 inches (Table 1).

The Doppler radar rainfall estimates were 2 to 4 inches for the eastern third and for western of Puerto Rico, with sections near Luquillo Mountain Range and the San Juan metro area of 4 to 8 inches. For the southern slopes west of Patillas, the central interior and northwest coast west of Manatí, and the northern U.S. Virgin Islands rainfall amounts were in the order of 1 to 2 inches. Vieques and Culebra received 1 to 3 inches, while ISX registered 2 to 3 inches in the west of the island, and less than two inches elsewhere (Figure 2). Several rain events affected the region during the month. mainly associated with the remnants of old frontal boundaries dragged by the trade winds across the region. However, on the last day of the month, the combination of an area of low level convergence, increased instability and a southwest flow in the mid to upper levels, resulted in a significant rainfall event mainly for Guaynabo and San Juan. Doppler radar estimates were around 3 to 5 inches, with isolated higher amounts. These rains resulted in several reports of flooding, mudslides, and trees down. Across the COOP stations, the warmest high temperature was 93ºF at Aguirre, the coolest low was at 50ºF at Adjuntas Substation. Maricao 2 SS station had the rainiest month with 2.84”, and also the rainiest day with 1.25”. One daily maximum temperature record was established at JSJ on January 15th with 89ºF, and another one in ISX with 88ºF on January 6th. A daily rainfall record was established at IST with 0.56” on January 12th, and another one on ISX with 1.6” on January 14th.

The drought conditions worsened across all the islands throughout the month. Abnormally dry (D0) conditions cover most of Puerto Rico, except the west. Additionally, a Moderate Drought (D1) now covers sections of the northwest, north-central, eastern interior and Vieques. A Severe Drought (D2) was also introduced for Salinas and Arecibo. In summary, about 86% of Puerto Rico is now under any drought classification. Across the U.S. Virgin Islands, D2 conditions are now present for St. John, while Extreme Drought Conditions (D3) are observed at St. Thomas and also continue for St. Croix (Figure 3).

Looking Ahead:

The latest seasonal outlook issued by the Caribbean Climate Outlook Forum (CariCOF) for the 3-month period of February-March-April (FMA) has equal chances of observing near normal precipitation (Figure 4) and slighter than normal temperatures (Figure 5) across the eastern Caribbean. La Niña conditions are observed, which are favored to continue through the rest of the spring months. La Niña conditions generally favor less rainfall through the winter months.
More info: http://rcc.cimh.edu.bb/climate-outlooks/

Figures and Tables

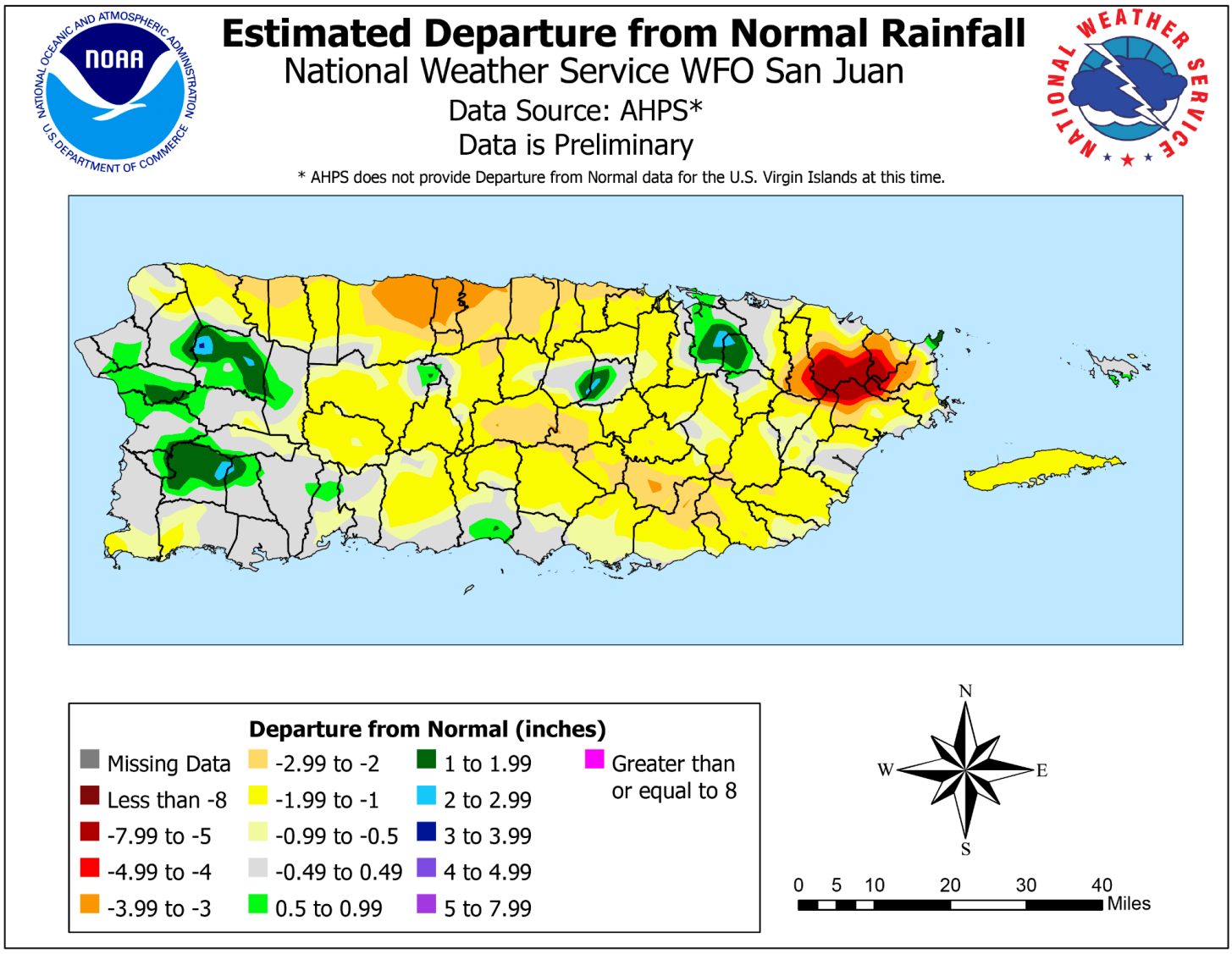

Figure 1. Departure from normal rainfall for the month of January 2022.

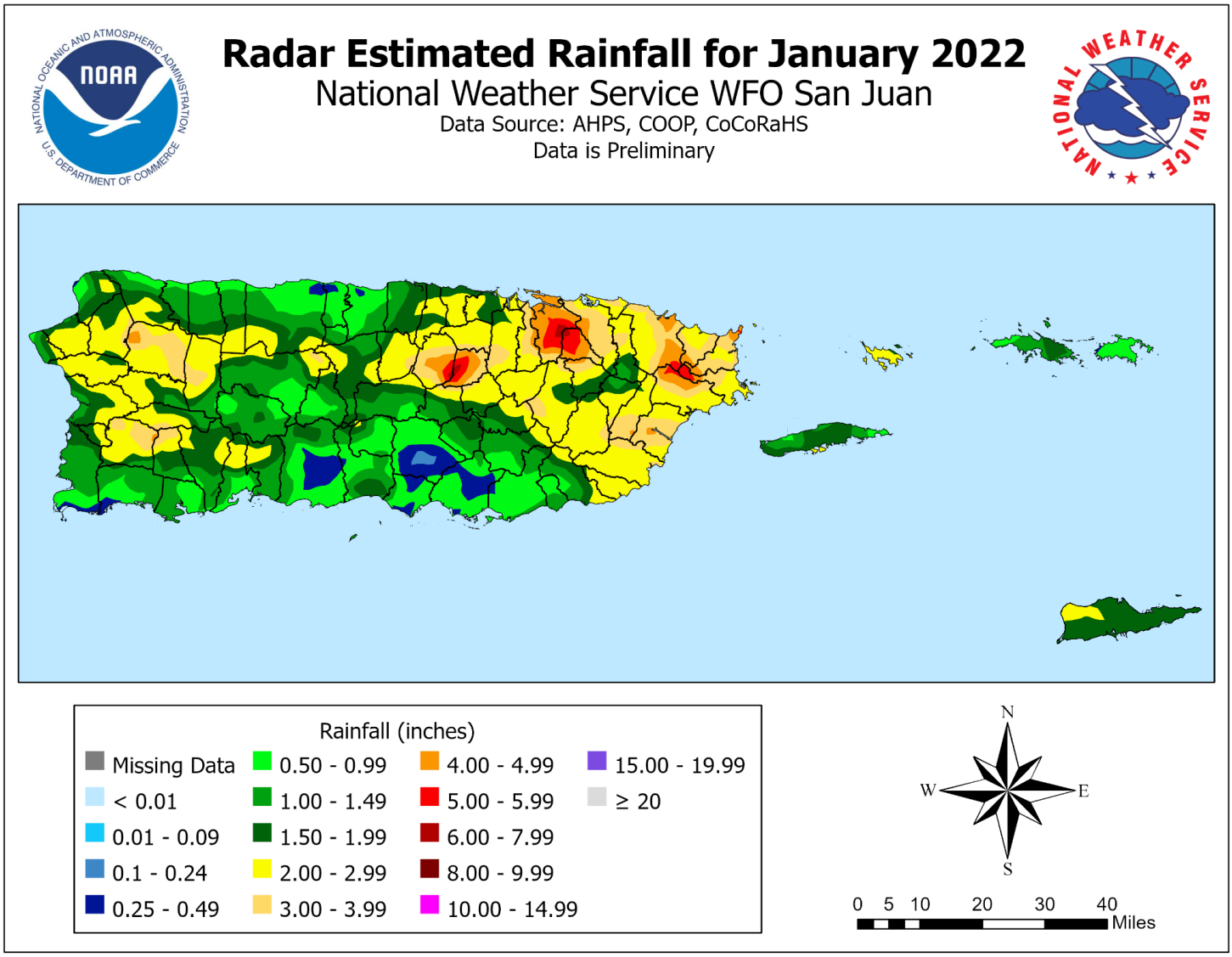

Figure 2. Total estimated rainfall for the month of January 2022.

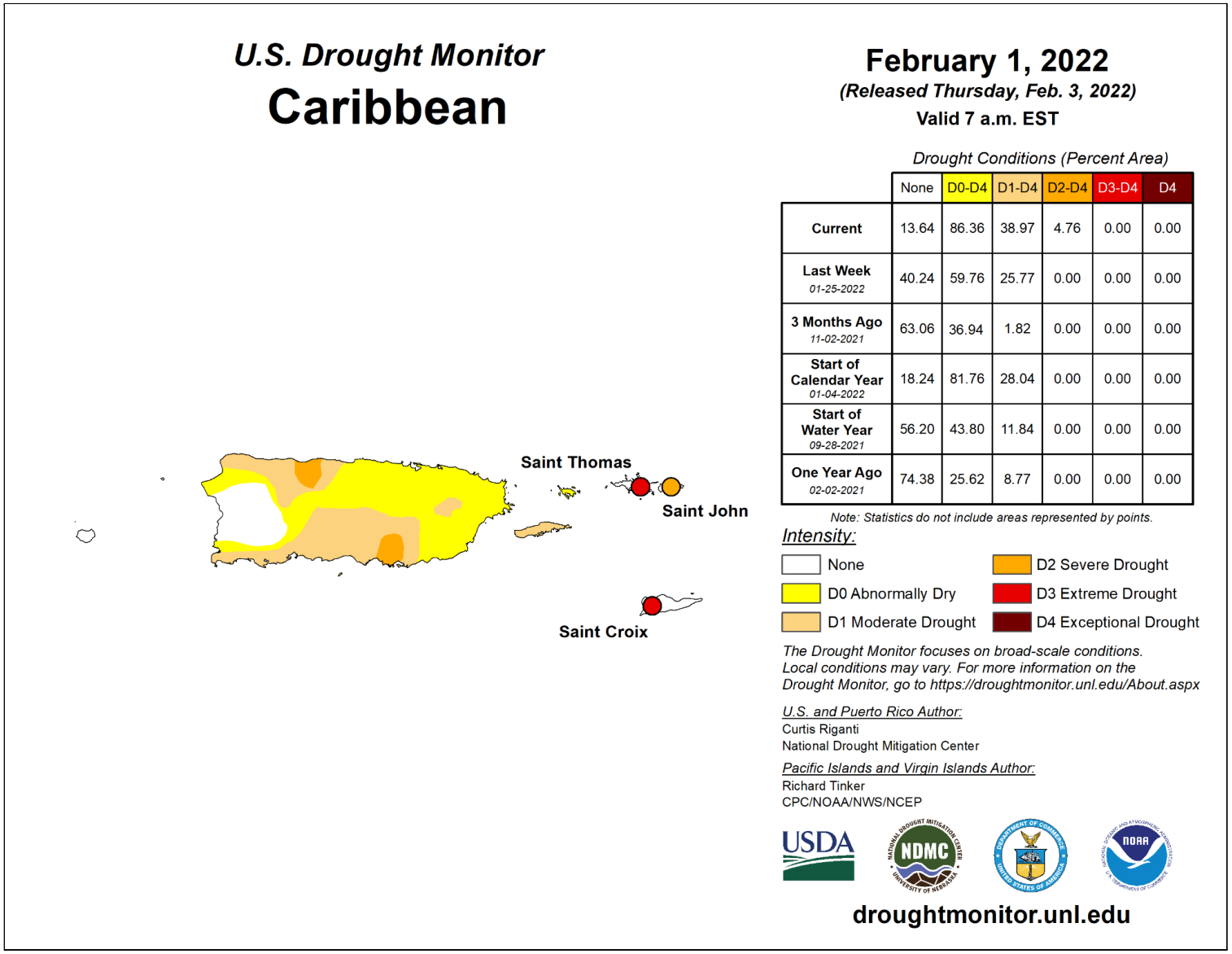

Figure 3. U.S. Drought Monitor for Puerto Rico and the U.S. Virgin Islands. Released February 3rd, 2022.

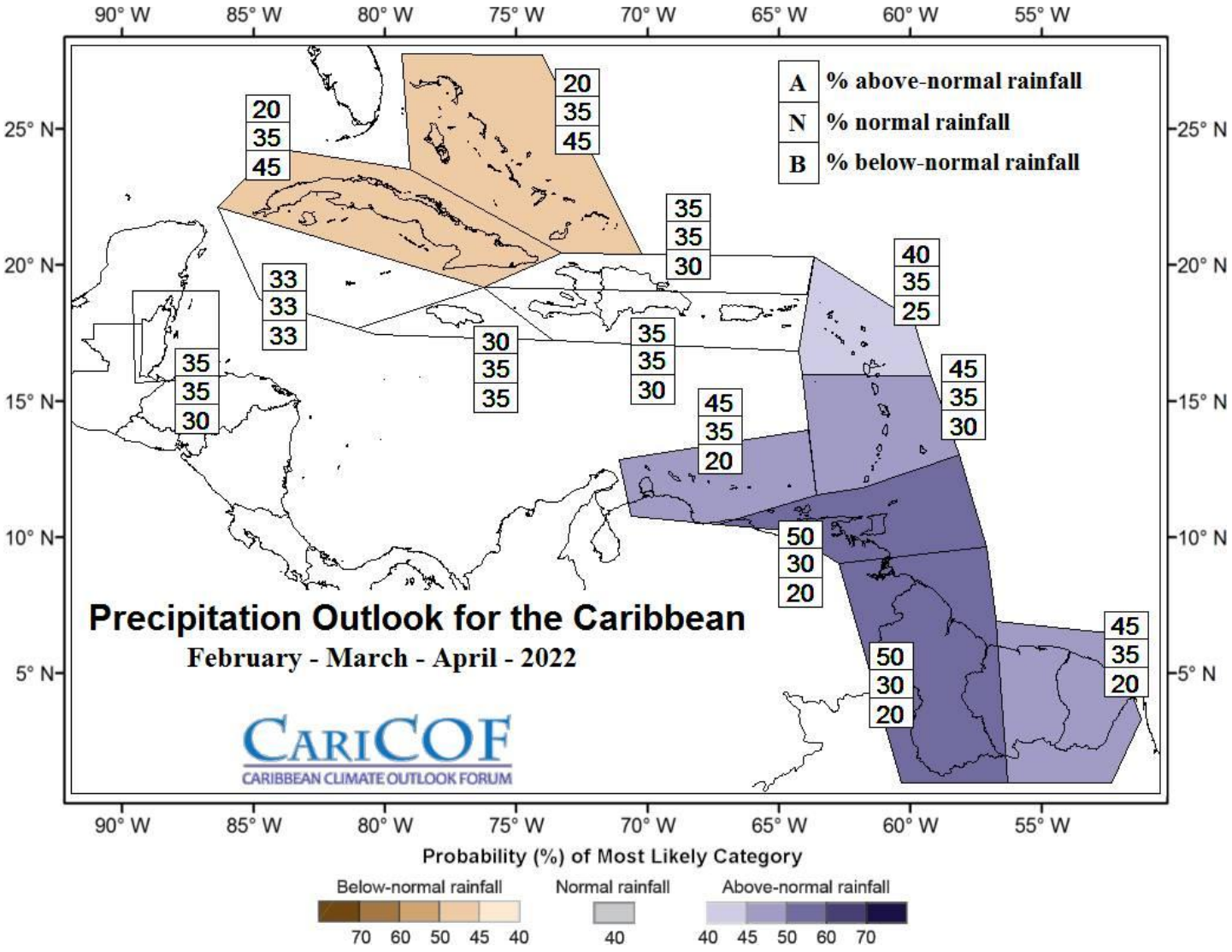

Figure 4. CariCOF 3-month rainfall forecast

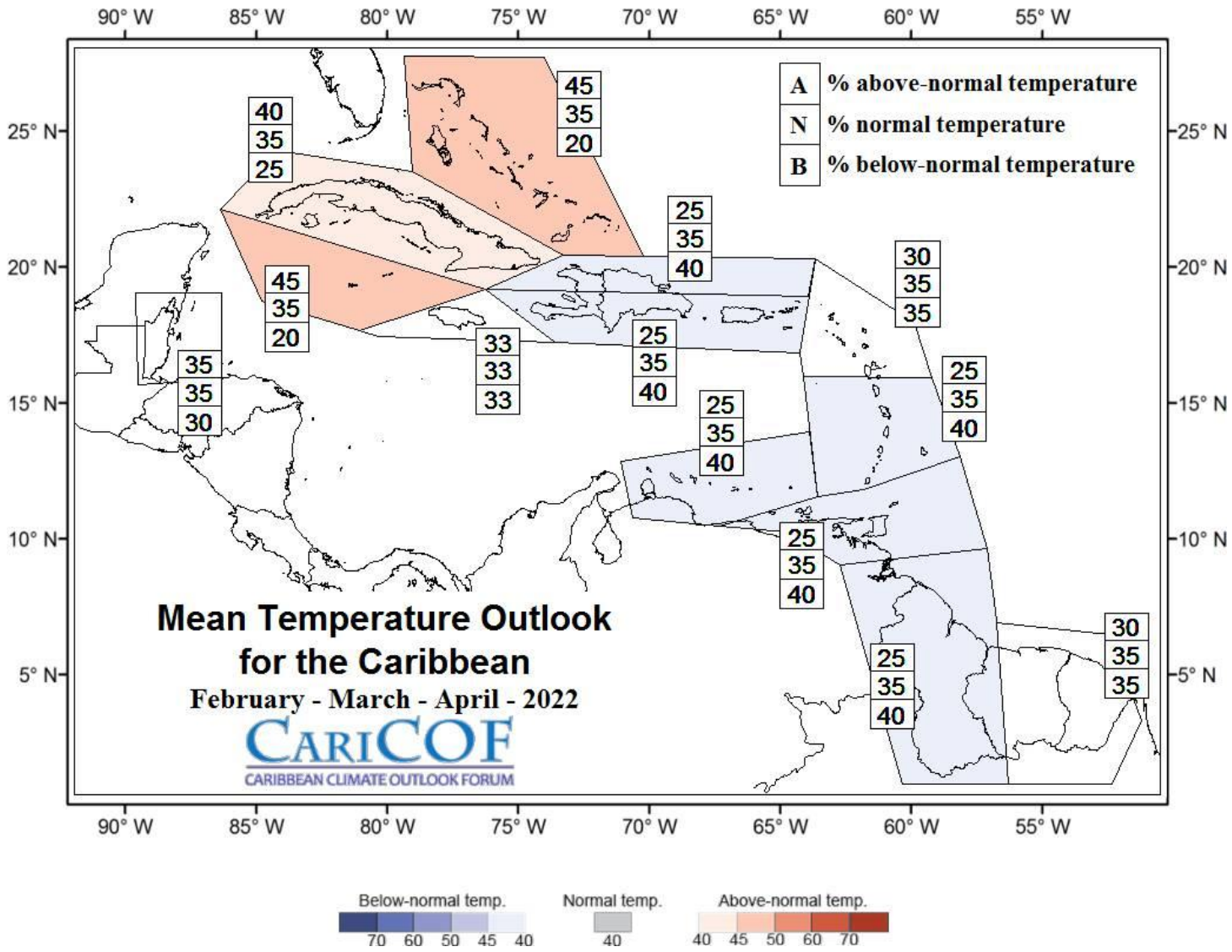

Figure 5. CariCOF 3-month temperature forecast

	Total Monthly Rainfall	Monthly departure from normal rainfall	Year-To-Date departure from normal rainfall.
JSJ	2.73”	-1.34”	-1.34”
IST	1.34”	-1.30”	-1.30”
ISX	2.22”	0.28”	0.28”

Table 1. Rainfall highlights for the local international airports.

	Highest Daily Max Temp (°F)	Lowest Daily Min Temp (°F)	Monthly Mean Temp (°F)	Monthly departure from normal Mean Temp (°F)
JSJ	89 – Jan 14th	67 – Jan 24th	77.7	0.1
IST	86 – Jan 22nd*	70 – Jan 30th*	78.3	-0.5
ISX	88 – Jan 6th	67 – Jan 12th	78.6	0.9

Table 2. Temperature (°F) highlights for the local international airports.
*Date of last occurrence. This temperature was observed in more than one day.

	Records Set or Tied This Month	Previous Record and Year
JSJ	89 - Jan 15th	88 - 1978
IST	0.56” - Jan 12th	0.42” - 1989
ISX	88 - Jan 6th 1.6”- Jan 14th	87 - 2020 0.49” - 1972

Table 3. Maximum daily temperature (°F) and rainfall records set in January 2022.